



Onslow County Health Department
 234 Northwest Corridor Blvd
 Jacksonville, North Carolina 28540
 Phone: (910) 938-5851 Fax: (910) 989-5819

CONSTRUCTION AUTHORIZATION

(GS 130A-336)

Permit No: EHCA-2019-00456

Workclass: EH CA Revision

(Required for Building Permit)

THIS AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION SHALL BE VALID FOR A PERIOD EQUAL TO THE PERIOD OF VALIDITY OF THE IMPROVEMENT PERMIT.

Owner: DR HORTON INC

Address: 221 CHESWICK DR, HOLLY RIDGE, NC 28445

Subdivision: PRESERVE AT MORRIS LANDING **Lot Number:** 35 **Section:** 8 **Phase:** 2

Block: **Part:** **Tract:**

Proposed Use: Single Family Residence

Location: 221 Cheswick Drive

System Type: III b **System Classification:** b. Septic system w/ single effluent pump or siphon

System Description: 25% Reduction Accepted System, Effluent Pump

Facility/Daily design flow: 4 Bedrooms - 480 gpd - 8 Persons max

System Information: Install 4-60' 25% reduction drainlines.

Repair: 16' X 60' anaerobic drip.

LTAR: .5 gpd/sq. ft. **Water Supply:** Public

Septic Tank Size: 1000 gallons **Grease Trap Size:** N/A gallons

Pump Tank Size: 1000 gallons

Nitrification Area: 720 sq. ft. **Nitrification Linear Feet:** 240 lin. ft.

No of Lines: 4 **Line Length:** 60' **Line Width:** 3'

Trench Bottom Depth: No Deeper Than 18" Below Ground Surface

(SEE ATTACHED PAGES 1 - 7 of 7 FOR ADDITIONAL PERMIT CONDITIONS)

Signed By: Robert McCabe *Robert McCabe REHS* Date: 07/31/2019

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958 and .1959 are incorporated by reference into this permit and shall be met.

THE ISSUANCE OF THIS C.A. DOES NOT CONSTITUTE AN ONSLOW COUNTY WARRANTY OR GUARANTEE OF THE FUNCTIONALITY OF THE WASTEWATER SYSTEM

OWNER: The Preserve At Morris Landing
ADDRESS: Lot 35, Section 8
LOCATION: 221 Cheswick Drive

Addendum to Permit #EHCA-2019-00456
Page 1 of 7

PLOT PLAN

SCALE: 1 inch = 50 feet

See Page 2 of 7

ADDITIONAL PERMIT CONDITIONS:

1. Do not park or drive on any part of the septic system or repair area.
2. Nitrification trench aggregate shall be covered with straw, untreated paper or other approved materials prior to final cover / backfilling.
3. Do not install system under wet conditions.
4. Rock used in soil absorption systems shall be clean, washed gravel or crushed stone and graded or size in accordance with size numbers 3, 4, 5, 57, or 6 of ASTM D-448 (standard sizes of coarse aggregate) which is hereby adopted by reference in accordance with G.S. 150 B-14 (c). Documentation of aggregate size shall be available upon request.
5. Adhere to minimum setback requirements as stated in Rule .1950 and .1951 of NC Laws and Rules for Sewage Treatment, and Disposal Systems (Article 11, G.S. Chapter 130A), unless otherwise indicated in this permit.
6. All pump tanks shall be tested for water tightness. In addition, septic tanks may be subject to a water tightness test.
7. The septic tank is designed to receive sewage or wastewater under gravity flow. However, if a system subject to the N.C. Plumbing Code is used to pump raw sewage to the septic tank, the sewage shall be reduced to gravity/non-turbulent flow by approved means at the inlet of the septic tank.
8. An accepted wastewater system may also be installed in accordance with the Accepted Wastewater System Approval (AWWS-05-01 or AWWS-05-02). Maximum LTAR of 1.0 gpd / ft².
9. Run lines parallel to contour. System components represent approximate contours only. The contractor must flag the system prior to beginning the installation to insure that proper grade is maintained.
10. A recorded plat or deed and corresponding map shall be submitted to the Environmental Health Section of the Onslow County Health Department **PRIOR TO** the issuance of the Construction Authorization.
11. An **APPROVED** stormwater plan shall be submitted to the Environmental Health Section of the Onslow County Health Department **PRIOR** to issuance of a Construction Authorization.
12. **FOR DWELLING UNIT WASTEWATER SYSTEMS ONLY** – This wastewater system is designed only for the number of bedrooms shown as bedrooms or sleeping rooms on the building/floor plan approved by Onslow County Code Enforcement. No other room or space may be relabeled as a bedroom, used as a bedroom, or converted into a bedroom without prior approval from Onslow County Environmental Health.

SYSTEM DESIGN

BEDROOMS/ GPD: 4 Bedrooms/480 gpd/8 Persons Max
SYSTEM TYPE: III b
% REDUCTION: 25%
LTAR: .5 # OF LINES: 4
LENGTH EACH LINE: 60'
LINEAR FEET: 240' SQ. FT.: 720
TRENCH BOTTOM: 18" Below Ground Surface
TRENCH WIDTH: 3 feet w/ lines 9 feet on center
REPAIR AREA: 16' X 60' Anaerobic Drip
TRENCH BOTTOM: 6" Below Ground Surface
LTAR: .25

Soil Boring 1

- 0-4" Dark gray (10YR 4/1) loamy sand, granular, very friable, non-expansive.
- 4-10" Light yellowish brown (10YR 6/4) loamy sand, granular, very friable, non-expansive.
- 10-20" Light yellowish brown (2.5Y 6/4) loamy sand, granular, very friable, non-expansive.
- 20-30" Yellowish brown (10YR 5/6) sandy clay loam, sub-angular blocky, firm, slightly expansive.
- 30-42" Yellowish brown (10YR 5/6) sandy loam, sub-angular blocky, friable, slightly expansive.

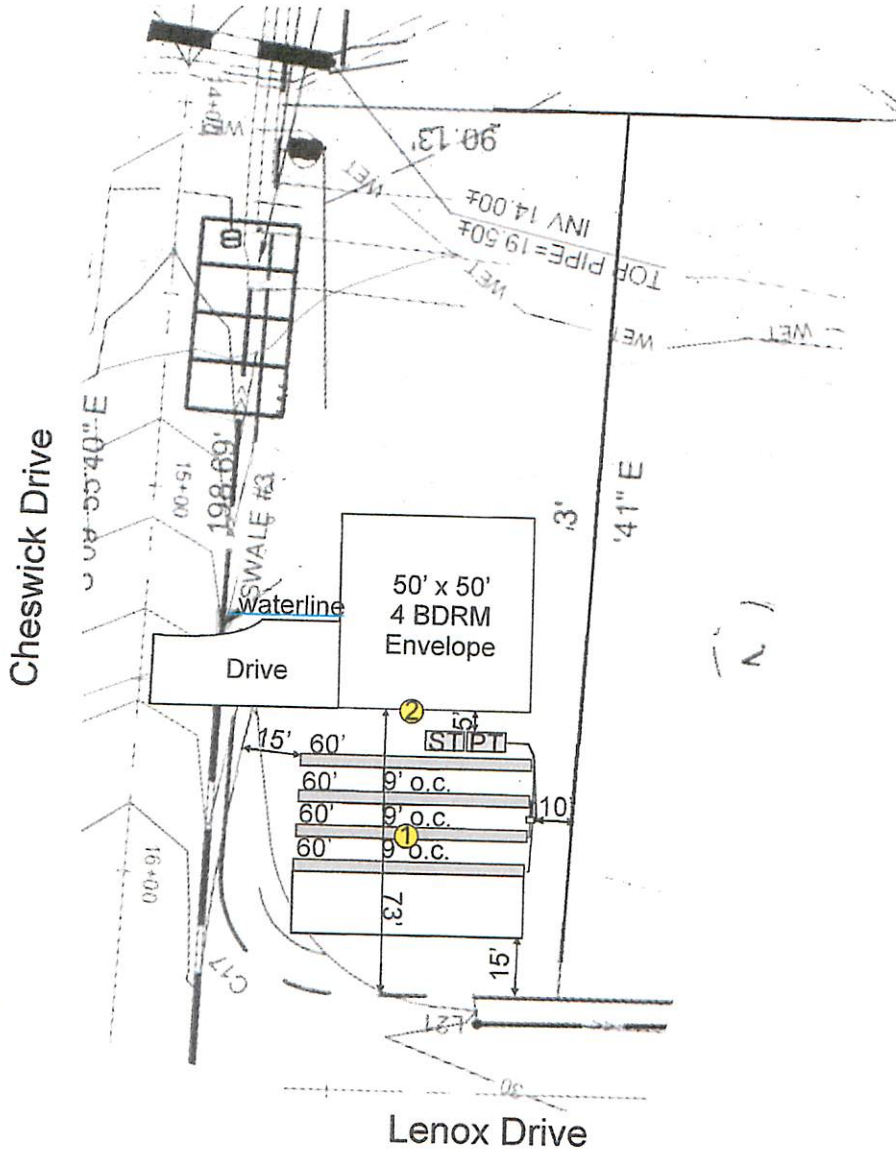
Soil Wetness: 42"+ / LTAR 0.5

Soil Boring 2

- 0-4" Dark gray (10YR 4/1) loamy sand, granular, very friable, non-expansive.
- 4-10" Light yellowish brown (10YR 6/4) loamy sand, granular, very friable, non-expansive.
- 10-20" Light yellowish brown (2.5Y 6/4) loamy sand, granular, very friable, non-expansive.
- 20-30" Yellowish brown (10YR 5/6) sandy clay loam, sub-angular blocky, firm, slightly expansive.
- 30-36" Yellowish brown (10YR 5/6) sandy loam, sub-angular blocky, friable, slightly expansive.

Soil Wetness: 36"+ / LTAR 0.5

● Soil Boring Location (approximate)



System Specifications

4 Bedroom Residence
480 Gallons Per Day

Initial: LTAR 0.5

- Install 1000 gallon septic tank (ST)
- Install 1000 gallon pump tank (PT)-if needed
- 720 Sq. Ft. 25% Reduction system (reduction shown)
- 240 Ln. Ft. 25% Reduction system (reduction shown)
- (4) 3' x 60' Nitrification trenches
- Trench bottom depth 18"

Repair: LTAR 0.5

- 960 Sq. Ft. Anaerobic Drip System
- 480 Ln. Ft. Drip tubing required
- 16' x 60' Drip area shown
- Install drip tubing 3" into soil



12 June 2018

Notes: Wastewater system areas shall be protected during all phases of site modification and/or construction.

Note: Map adapted from survey by Paramounte Engineering dated 6/5/18

TITLE: Phase VI, Lot 35 Morris Landing Onslow County, NC		FIGURE: 1	
JOB: 11085	SCALE: 1"=50'	DATE: 6/12/18	DRAWN BY: GY



Tank Water Tightness Testing Procedures

I. Leak Testing Procedures:

1. The tank shall be set and leveled. The tank hole may be backfilled to a point below the midseam of a two piece tank or to the midpoint of a one-piece tank. If site conditions do not allow the tank hole to be left open or if you choose not to leave the tank hole open, the tank shall be leak tested onsite prior to placement in tank hole.
2. The manhole riser(s) (if applicable) shall be attached to the tank according to state approved plans.
3. The tank shall be filled with water 2” above the seam where the manhole riser is connected to the top of the tank, or to a point level with the top of the tank in both manholes if riser(s) are not required. It is strongly recommended to perform the leak test prior to removing any tank block out (placing any pipes into/out of the tank). If tank block outs have been removed and pipe has been installed it will be necessary to block or plug the inlet and outlet pipe to prevent flow from these pipes. It may also be necessary to place mastic around the bevel of the inlet manhole and weight the lid down to prevent leakage.
4. After filling and allowing for the concrete to absorb water (about 24 hours) add any additional water needed to get water level back to the starting level.
5. Contact the Onslow County Health Department to conduct the test. The test will take a minimum of 24 hours and will not be conducted Friday or the day prior to a Holiday.
6. Only after the completion of a satisfactory leak test will the tank be approved for use.

II. Vacuum Testing Procedures (concrete tanks only):

1. The tank shall be set and leveled. The tank hole may be back filled to a point below the midseam of a two piece tank or to the midpoint of a one piece tank. If site conditions do not allow the tank hole to be left open or if you choose not to leave the tank hole open, the tank shall be leak tested on site prior to placement in tank hole.
2. The manhole riser(s) (if applicable) shall be attached to the tank according to state approved plans.
3. The tank shall be vacuum tested as per the following:

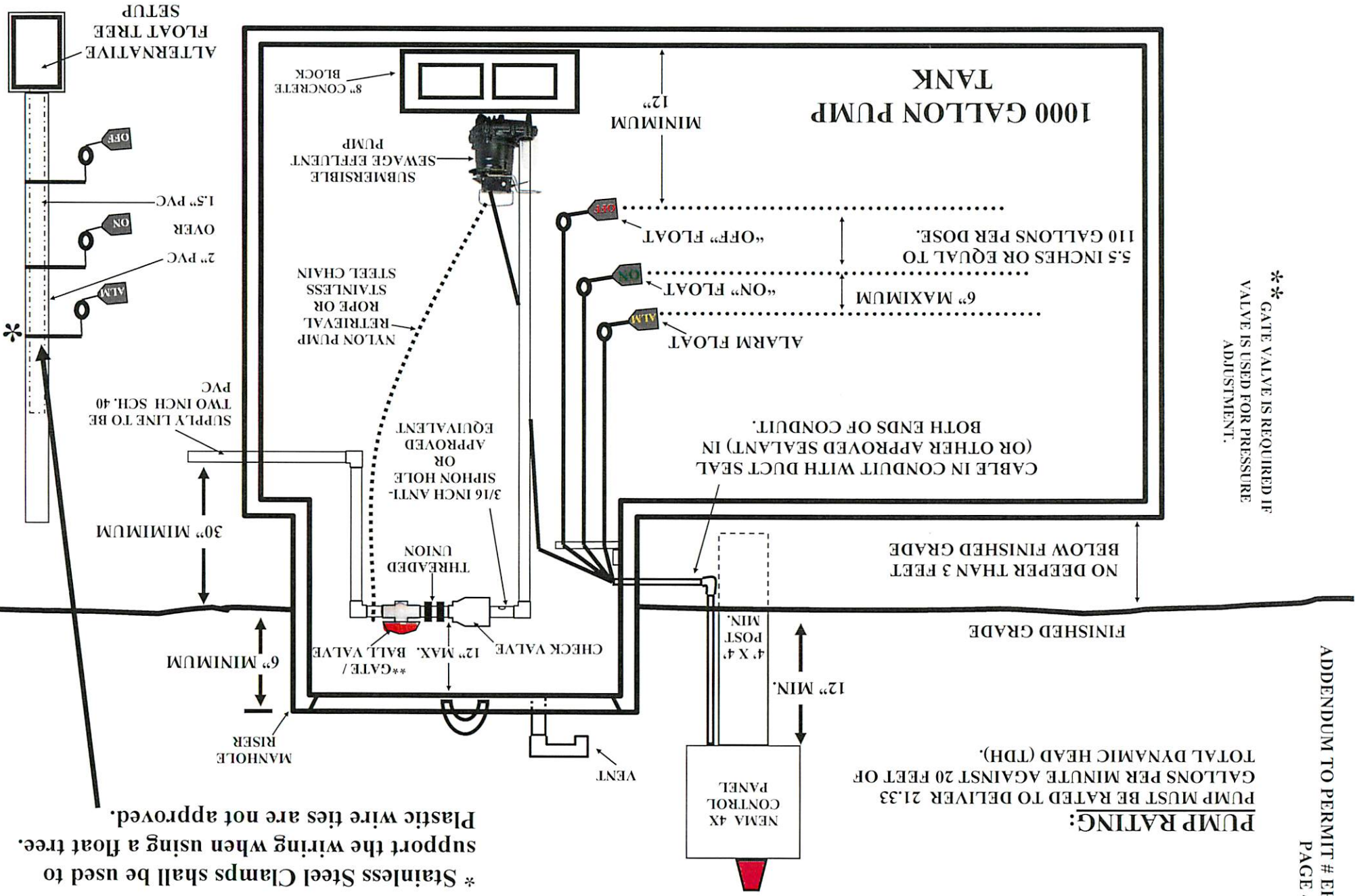
<u>Inches of Mercury</u>	<u>Duration</u>
5”	2 Min.

(\leq 10% pressure drop / \leq .5 inch loss of mercury shall constitute an acceptable test)

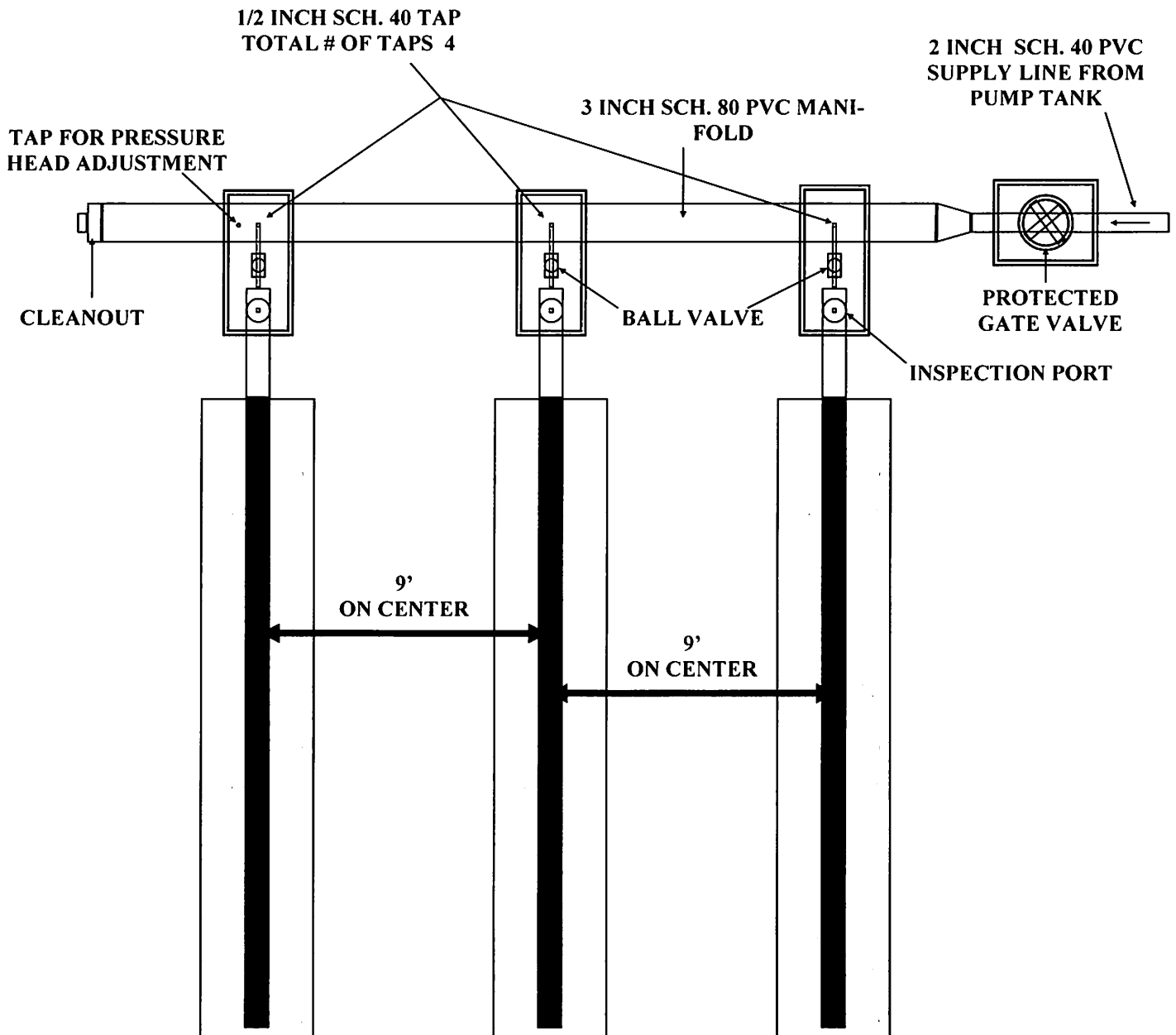
4. Onslow County Health Department representative shall be present during vacuum testing procedure.
5. Only after the completion of a satisfactory vacuum test will the tank be approved for use.

PUMP SYSTEM DETAIL SHEET

* Stainless Steel Clamps shall be used to support the wiring when using a float tree. Plastic wire ties are not approved.



MANIFOLD FOR LEVEL SITES



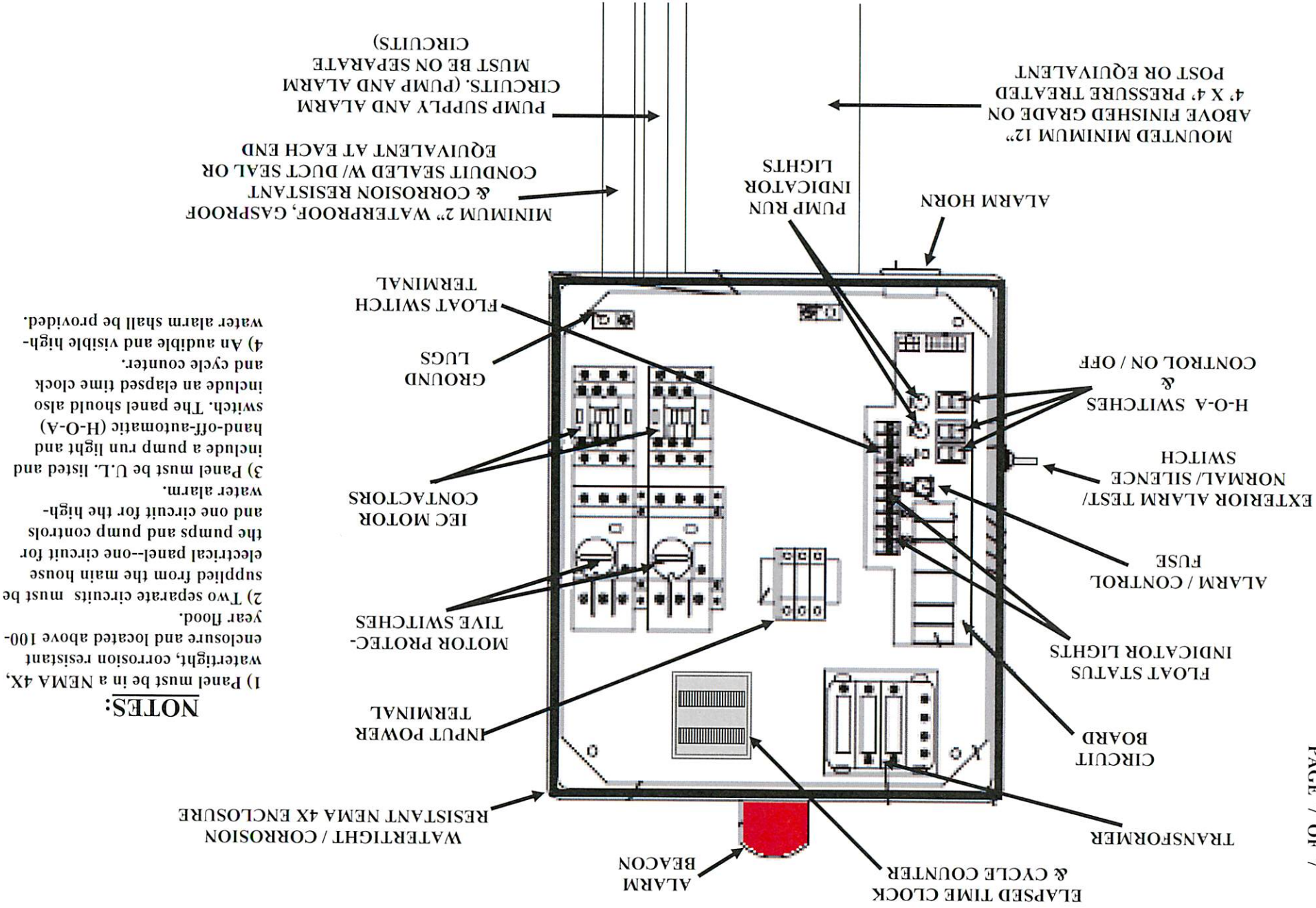
- PRESSURE HEAD TO BE SET AT 2 FEET.
- MANIFOLD SHALL BE INSTALLED LEVEL.
- CLEANOUT PLUG MAY BE ADAPTED TO ACCOMMODATE A STAND PIPE FOR PRESSURE HEAD ADJUSTMENT.

Pump Tank Additional Specifications

1. There shall be no splices in any electrical cable within the pump chamber.
2. Pump and alarm must be on two separate live electrical circuits which operate independently of each other.
3. If the pump manufacturer specifies that the "pump off" level be below the top of the pump, then follow the manufacturer's specifications and adjust other floats accordingly.
4. Contact the Onslow County Electrical Inspector for release of Temporary Full Service and be sure service is available **prior** to contacting the Onslow County Health Department for inspection.
5. Check valves shall be mounted horizontally and such that a siphon breaker hole can be drilled on the pump side of the valve.
6. Only those tanks specifically approved by the state of North Carolina and appropriately stamped shall be used for pump tanks. Modified septic tanks shall not be approved.
7. This permit is valid only for that shown on the attached plot plan, these specifications, and related paraphernalia approved by the Onslow County Health Department.
8. A complete and approved installation is required for this permit to continue to be valid beyond five years elapsed time from the date of issuance.
9. This permit is valid subject to all conditions so noted on this permit, the operations permit, the approved plans and specifications, and any written correspondence that may specify a condition or requirement.
10. This permit is valid only for as long as it meets all requirements of G.S. Chapter 130A Article 11 and related portions of NC Administrative Code.
11. No driving or parking shall be allowed over any portion of the system or repair area unless specifically approved elsewhere in this permit.
12. System operation, maintenance and repairs shall be the responsibility of the land owner as named on this permit.
13. This permit shall not be transferred, nor shall any changes of use occur, without prior approval by the Onslow County Health Department.
14. The pump curve for the effluent pump installed shall be available during the system inspection.
15. Paperwork confirming that the electrical enclosure used is NEMA 4X rated shall be available during system inspection. (Paperwork is not necessary if NEMA 4X rated is clearly marked on the enclosure.)

CONTROL PANEL DETAIL

(NOT A WIRING DIAGRAM! CONSULT AN ELECTRICIAN)



NOTES:

- 1) Panel must be in a NEMA 4X, watertight, corrosion resistant enclosure and located above 100-year flood.
- 2) Two separate circuits must be supplied from the main house electrical panel--one circuit for the pumps and pump controls and one circuit for the high-water alarm.
- 3) Panel must be U.L. listed and include a pump run light and hand-off-automatic (H-O-A) switch. The panel should also include an elapsed time clock and cycle counter.
- 4) An audible and visible high-water alarm shall be provided.



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IMPROVEMENT PERMIT

(GS 130A-336)

Permit No: EHIP-2018-00176

Workclass: EH IP New

A building permit cannot be issued with only an Improvement Permit

Expiration: Valid For 5 Years From The Date of Issuance 10/26/2018

Owner: PRESERVE AT MORRIS LANDING LLC

Address: . LENOX DR, HOLLY RIDGE, NC 28445

Subdivision: PRESERVE AT MORRIS LANDING

Lot Number: 35

Section:

Phase: VI

Block:

Part:

Tract:

Proposed Use: Single Family Residence

Location: Lenox Drive

System Type: III

System Classification: g. Non-Conventional trench system

System Description: 25% Reduction Accepted System

Facility/Daily design flow: 4 Bedrooms/480 gpd/8 Persons max

System Information: Install: 4-60' 25% reduction drainlines.

Repair: 16' X 60' Anaerobic drip.

LTAR: .5 gpd/sq. ft.

Water Supply: PUBLIC

(SEE ATTACHED PAGES 1, 2 of 2 FOR ADDITIONAL PERMIT CONDITIONS)

Signed By: Robert McCabe *Robert McCabe REH* Date: 10/26/2018

The issuance of this permit by the Onslow County Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This permit is subject to revocation if the site plan, plat, or the intended use changes. This Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

OWNER: The Preserve At Morris Landing
ADDRESS: Lot 35, Phase 6
LOCATION: Lenox Drive

Addendum to Permit #EHIP-2018-00176
Page 1 of 2

PLOT PLAN

SCALE: 1 inch = 50 feet

See Plot Plan
Page 2 of 2

ADDITIONAL PERMIT CONDITIONS:

1. Do not park or drive on any part of the septic system or repair area.
2. Nitrification trench aggregate shall be covered with straw, untreated paper or other approved materials prior to final cover / backfilling.
3. Do not install system under wet conditions.
4. Rock used in soil absorption systems shall be clean, washed gravel or crushed stone and graded or size in accordance with size numbers 3, 4, 5, 57, or 6 of ASTM D-448 (standard sizes of coarse aggregate) which is hereby adopted by reference in accordance with G.S. 150 B-14 (c). Documentation of aggregate size shall be available upon request.
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SYSTEM DESIGN

BEDROOMS/ GPD: 4 Bedrooms/480 gpd/8 Persons Max

SYSTEM TYPE: III g

% REDUCTION: 25%

LTAR: .5 # OF LINES: 4

LENGTH EACH LINE: 60'

LINEAR FEET: 240' SQ. FT.: 720

TRENCH BOTTOM: 18" Below Ground Surface

TRENCH WIDTH: 3 feet w/ lines 9 feet on center

REPAIR AREA: 16' X 60' Anaerobic Drip

TRENCH BOTTOM: 6" Below Ground Surface

LTAR: .5

Soil Boring 1

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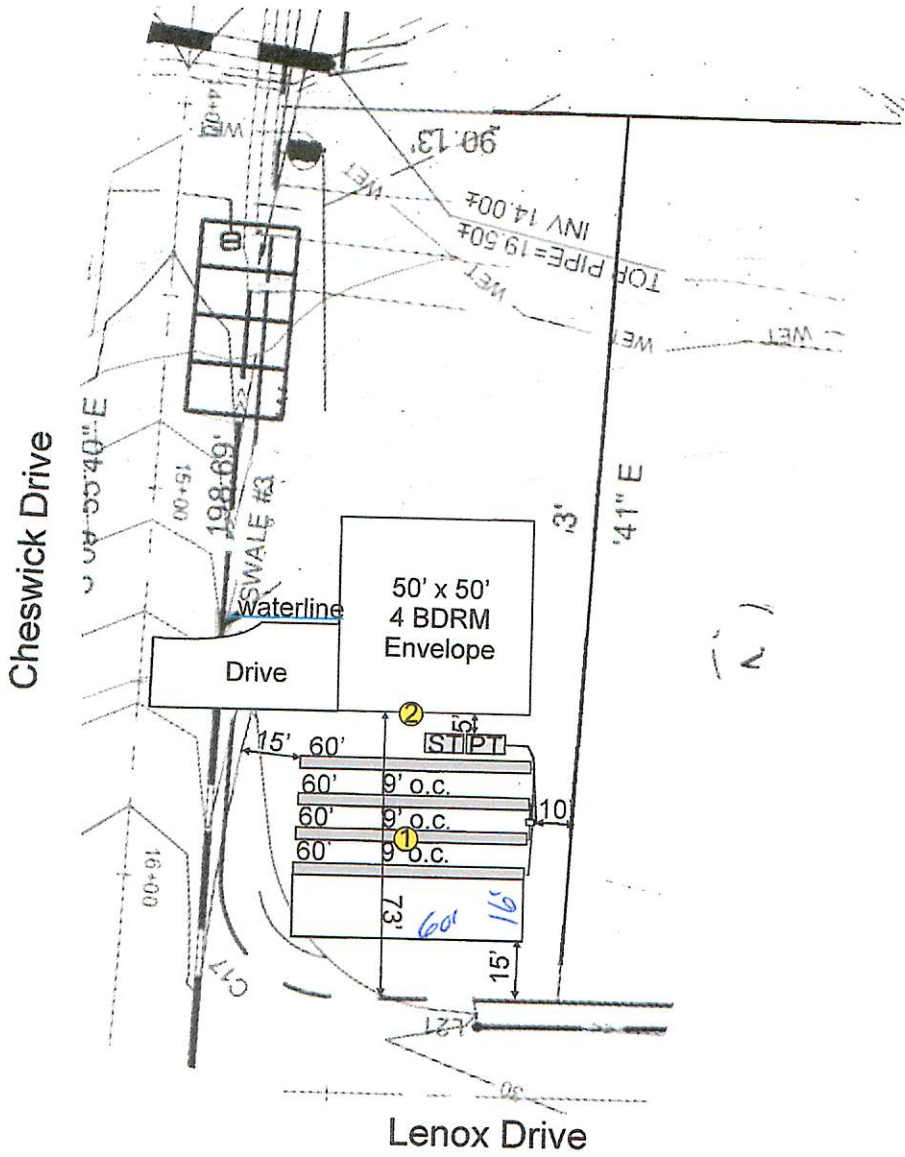
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● Soil Boring Location (approximate)

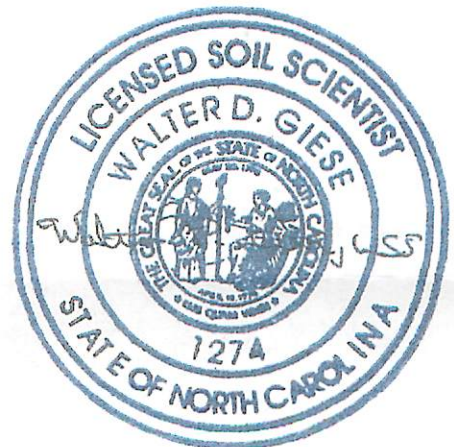


System Specifications

4 Bedroom Residence
480 Gallons Per Day

- Initial:** LTAR 0.5
- Install 1000 gallon septic tank (ST)
 - Install 1000 gallon pump tank (PT)-if needed
 - 720 Sq. Ft. 25% Reduction system (reduction shown)
 - 240 Ln. Ft. 25% Reduction system (reduction shown)
 - (4) 3' x 60' Nitrification trenches
 - Trench bottom depth 18"

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 - 16' x 60' Drip area shown
 - Install drip tubing 3" into soil



12 June 2018

Notes: Wastewater system areas shall be protected during all phases of site modification and/or construction.

Note: Map adapted from survey by Paramounte Engineering dated 6/5/18

<p>Applied Resource Management, P.C. Hampstead, NC 28443</p>	TITLE: Phase VI, Lot 35 Morris Landing Onslow County, NC		FIGURE: 1
	JOB: 11085	SCALE: 1"=50'	DATE: 6/12/18